UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,102	04/13/2004	Yonghe Liu	TI-37140	4525

23494 7590 09/10/2009

TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265

EXAMINER	
SWEET, LONNIE V	

ART UNIT	PAPER NUMBER
2419	

NOTIFICATION DATE	DELIVERY MODE
09/10/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com

Office Action Summary	Application No.	Applicant(s)	
	10/823,102	LIU ET AL.	
	Examiner	Art Unit	
	LONNIE SWEET	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,and 5-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3, 5, 6, and 8-20* is/are rejected.

7)☒ Claim(s) *7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Receipt is acknowledged of applicant's amendment filed 4/30/2009. Claims 2 and 4 have been cancelled. Claims 1, 3, and 5-20 are pending and an action on the merits is as follows.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 8-11, 14-16, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benveniste et al. 2004/0095911 (hereinafter Ben), in view of Charrat 5,774,459 (hereinafter Charrat), and further in view of Stephens US 7,423,968 (hereinafter Stephens).

Regarding claims 1, 10, 11, 16, and 18, Ben teaches a wireless network comprising a transmitting and receiving elements [See Ben, Figure 1], wherein the transmitting element transmits a packet containing data instructions that makes the communication channel appear busy [See Ben, Figure 1], this is interpreted as invoking a virtual clear channel assessment mechanism. This instructs receiving stations to back off for a period of time, in which they are deferred from transmitting messages across

the wireless medium [See, Ben Paragraph 59]. But Ben does not teach that the value of time which the receivers are instructed to perceive the communication medium as busy substantially longer than the actual frame transmission period being sent.

However, Charrat discloses that the a busy period for a channel, for which other transmitting and receiving devices may be forced into a standby state, in which the stations do not transmit, may be set to a period longer than the period of transmission planned for a message [Charrat, Column 4, Lines 1-10].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Ben indicating a network that resolves contention issues by instructing other wireless communication modules to wait until after a the contention period has ended before accessing the communication channel, with the teachings of Charrat indicating that the contention period maybe substantially longer than the transmitted message. The benefiting result of the combination would have been a reduction of network collisions due to the reduction of channel access attempts, but it does not teach that the transmitting device may be a high-throughput device.

However, Stephens teaches that a transmitting element may be a high-throughput device capable of communicating with other high throughput devices and other conventional throughput devices used for receiving data.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Ben, in view of Charrat indicating a network comprising transmitting and receiving devices, wherein one device may indicate to another and set a VCCA time period whereby all other devices are to refrain from

transmitting on the channel until a period longer that the actual period needed to transmit the data has past, with the teachings of Stephens indicating that the transmitting device may be a high-throughput device. The combination of the teachings would have created a system and method of invoking a VCCA period and transmitting information between devices at increased transmission speeds, thus the benefiting result of the combination would have been increased transmission rates over the communication network.

Regarding claims 8, 9, 14, 15, and 20, Ben teaches a wireless network comprising a transmitting and receiving elements [See Ben, Figure 1], wherein the transmitting element transmits a packet containing data instructions that makes the communication channel appear busy [See Ben, Figure 1]. This instructs receiving stations to back off for a period of time, in which they are deferred from transmitting messages across the wireless medium [See Ben, Paragraph 59], thus functioning as a NAV performing VCS function

Claims 3, 5, 12, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ben, in view of Charrat, and further in view of Stephens, in view of Terry et al. US 7,046,651 (hereinafter Terry).

Regarding claims 3, 17 the combination of Ben, in view of Charrat, and further in view of Stephens teaches the presence of a transmitter and receiver in the contention control system.

But it does not specifically disclose that the transmitter has a much higher throughput capability than the receiver.

However, Terry teaches the transmitter has a much higher throughput capability than the receiver [Terry Column 9, Lines 33-37).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount high throughput taught by Terry into the contention control system as shown in the system of Ben, in view of Charrat, and further in view of Stephens to in order to improve longevity of the usefulness of the network devices within the network, so that they will be capable of supporting communications to future receivers to come that may have increased reception rates.

Regarding claims 5 and 12, the combination of Ben, in view of Carrat, and further in view of Stephens, as previously indicated in claims 1 and 10, disclose a contention control communication system wherein instruction are contained within the packets but it does not specifically disclose that the first portion includes a designation in a SIGNAL1 field of a physical layer convergence protocol (PLCP) frame constituting the same frame that is being sent from the transmitter to the receiver.

However, Terry teaches the first portion includes a designation in a SIGNAL1 field [See Terry Figure.11, OFDM signal field] of a physical layer convergence protocol

(PLCP) frame constituting the same frame that is being sent from the transmitter to the receiver [Terry, Column 13, Lines 51-60).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount signaling for frame transmission taught by Terry into the contention control system as shown in the system of Ben, in view of Charrat, and further in view of Stephens to in order to improve priority data transfer.

Regarding claim 19, Ben, in view of Charrat, and further in view of Stephens , as previously indicated in claim 16, disclose a contention control communication system wherein instruction are contained within the packets but it does not specifically disclose the instruction is a designation in a SIGNAL1 field of a physical layer convergence protocol (PLCP) frame constituting the same frame that is transmitted from the transmitting element to the receiving element, the SIGNAL1 field defining parameters associated with a particular communications protocol that is one of plural distinct communications protocols operating on the network.

However, Terry teaches the instruction is a designation in a SIGNAL1 field [Terry, Figure. 11, OFDM signal field] of a physical layer convergence protocol (PLCP) frame constituting the same frame that is transmitted from the transmitting element to the receiving element, the SIGNAL1 field defining parameters associated with a particular communications protocol that is one of plural distinct communications protocols operating on the network [Terry, Column 13, Lines 51-60].

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount high throughput taught by Terry into the contention control system as shown in the system of Ben, in view of Charat, and further in view of Stephens in order to improve transmission rate.

Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ben, in view of Charrat, and further in view of Stephens, in view of Terry, and further in view of Luna-Aceves et al. US 6,996,074 (hereinafter Luna).

Regarding claims 6 and 13, the combination of Ben, in view of Charrat, and further in view of Stephens, in view of Terry discloses all of the limitations as applied to claim 5 and 12 but fails to specifically disclose legacy receivers, having a slower throughput capability than a throughput capability of the transmitter, recognize the SIGNAL1 field but do not recognize a SIGNAL2 field.

However, Luna teaches legacy receivers, having a slower throughput capability than a throughput capability of the transmitter, recognize the SIGNAL1 field but do not recognize a SIGNAL2 field [Luna Column 5, Lines 25-28].

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount slower throughput taught by Luna into the contention control system as shown in the system of the combination of Ben, in view of

Charrat, and further in view of Stephens, in view of Terry in order to lower traffic on the network by controlling transmission rates of receivers on the network.

Allowable Subject Matter

Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The examiner has completed a thorough search of the disclosed invention and neither of the cited reference separately or in combination disclose, teach, or suggest in any form the arrangement of Claim 7, wherein the first portion sets the time period equal to a virtual clear channel assessment (VCCA) time period that equals the sum of:

- a content of a Duration field in frame header of the frame being
- transmitted;
- eight times a quotient of an actual length, in octets, of the frame being
- transmitted, and a transmission rate, in Mbps, of the frame being transmitted; an extender inter frame space; and a distributed inter frame space. .

Response to Arguments

Applicant's arguments with respect to claims 1, 3, 5-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LONNIE SWEET whose telephone number is (571)270-3622. The examiner can normally be reached on M-F 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pankaj Kumar can be reached on (571) 272-3011. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. S./
Examiner, Art Unit 2419
/Pankaj Kumar/
Supervisory Patent Examiner, Art Unit 2419